ABSTRACT

In a photomask blank comprising a light-shielding film and an antireflective film on a transparent substrate, the light-shielding film and the antireflective film are formed of a chromium base material containing oxygen, nitrogen and carbon such that the content of carbon decreases stepwise or continuously from a surface side toward the substrate. The photomask blank can be etched at a controlled rate to produce perpendicular walls. A photomask is manufactured by lithographically patterning the photomask blank. The photomask blank and photomask have uniform film properties and contribute to the microfabrication of semiconductor ICs of greater density and finer feature size.